CLAIMS

1. A method for isolating fetal cells present in maternal peripheral blood for prenatal genetic investigation, comprising the steps of:

a) transferring maternal blood into non-physiological tissue culture medium, which after addition of an aqueous solution containing citric acid, Na citrate and dextran, has the following characteristics:

pH	6.4 –6.6	
osmolality	300-330	mOsm
Na^+	150-170	mmol/l
K^+	4.5-5.5	mmol/l
Cl^-	100-115	mmol/l
Ca^{++}	1.00-2.50	mmol/l
glucose	400-500	mg/dl
lactate	10-20	mg/d

b) maternal blood, as modified in a) is transferred into a cell separation device, followed by the introduction into the said separation device of a liquid having an higher density and containing a RBCs aggregating agent;

c) the nucleated cells, having a lower density than the liquid introduced in the step b) are isolated, in the discontinuous density gradient, by subjecting the separation device to centrifugal force;

d) the isolated cells are washed and resuspended in tissue culture medium to regain physiological cell metabolism;

e) fetal cells are identified by appropriate procedures and counted.

2. The method of claim 1 whereby fetal NRBCs are isolated.

3. The method of claim 3 in which the non-physiological medium obtained in step a) has the following characteristics:

pH	6.5	
osmolality	320	mOsm
Na^+	165	mmol/l
K^+	5.35	mmol/l
Cl^-	110	mmol/l
Ca^{++}	1.25	mmol/l

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glucose	500	mg/dl
lactate	10	mg/dl

4. The method of claim 1 in which the RBCs aggregating agent of step b) is Ficoll.

5. The method of claim 1 in which the density of the liquid introduced in the separation device by the step b) is 1.068 g/ml.

6. The method of claim 1 in which the separation device used in step b), comprises an elongated chamber (1), whose cross section decreases from the base towards the top, at least a first channel (2) one end of which opens into the said chamber near the said base and the other end is connected to a pressurized liquid source, and a second channel (3) one end of which opens into the same chamber (1) at the device top while the other end opens at the exterior of the device, the said device further comprising at least one additional channel (4), one end of which opens at a middle level of said chamber height and the other end opens at the exterior of the device .